F·A·A·M facility for airborne atmospheric measurements

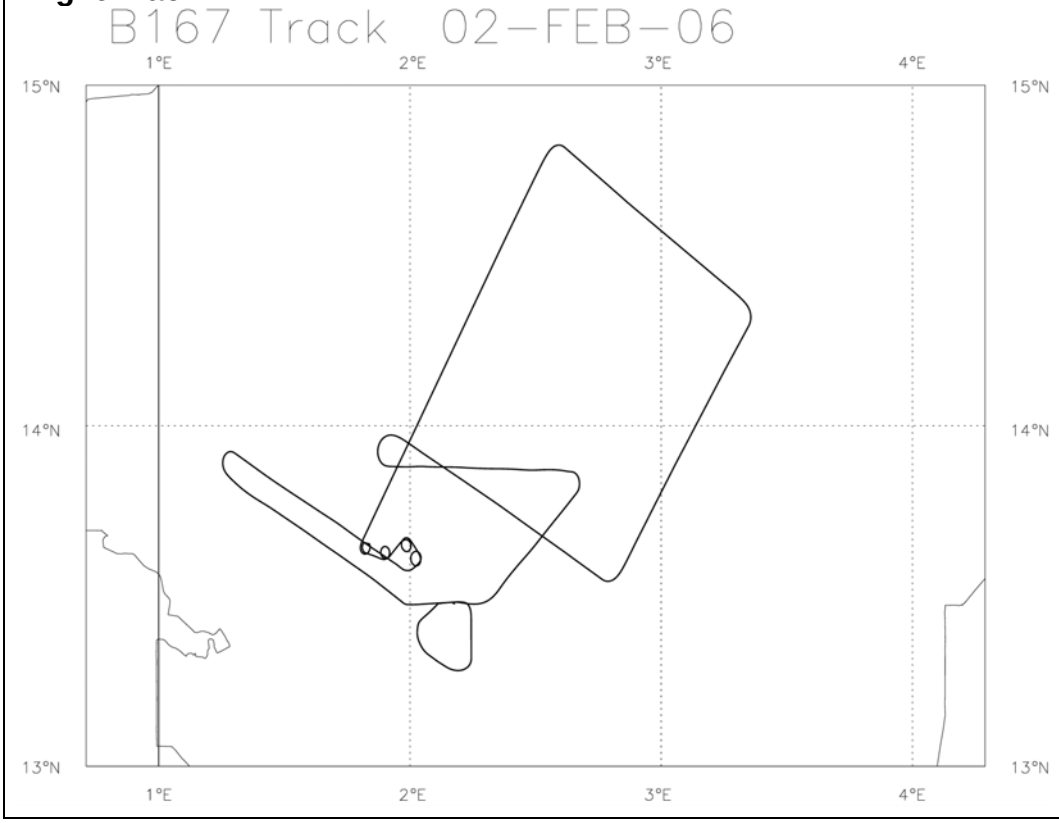
FLIGHT FOLDER

Flight No.:	B167
Date:	02 Feb 2006
Take Off	07:52:45
Landing:	09:56:04
Flight Time	2h03m19

Campaign: DABEX
Trials Instructions: Calibration flight for SWS, SHIMS and BBRs
Operating Area: Niamey area

POB	Position	Name	Institute
1	Captain	Alan Roberts	Directflight
2	Co-pilot	Ian Ramsay-Rae	Directflight
3	CCM	Jackie Mulholland	Directflight
4	Mission Scientist	Ellie Highwood	University of Reading
5	Flight Manager	Jim Crawford	FAAM
6	Core Chemistry / CCM2	Doug Anderson	FAAM
7	Cloud Physics	Martyn Pickering	Met Office
8	SWS / SHIMS	Claire McConnell	University of Reading
9	Wet Neph / Mission Scientist 2	Simon Osborne	Met Office
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Flight Track:

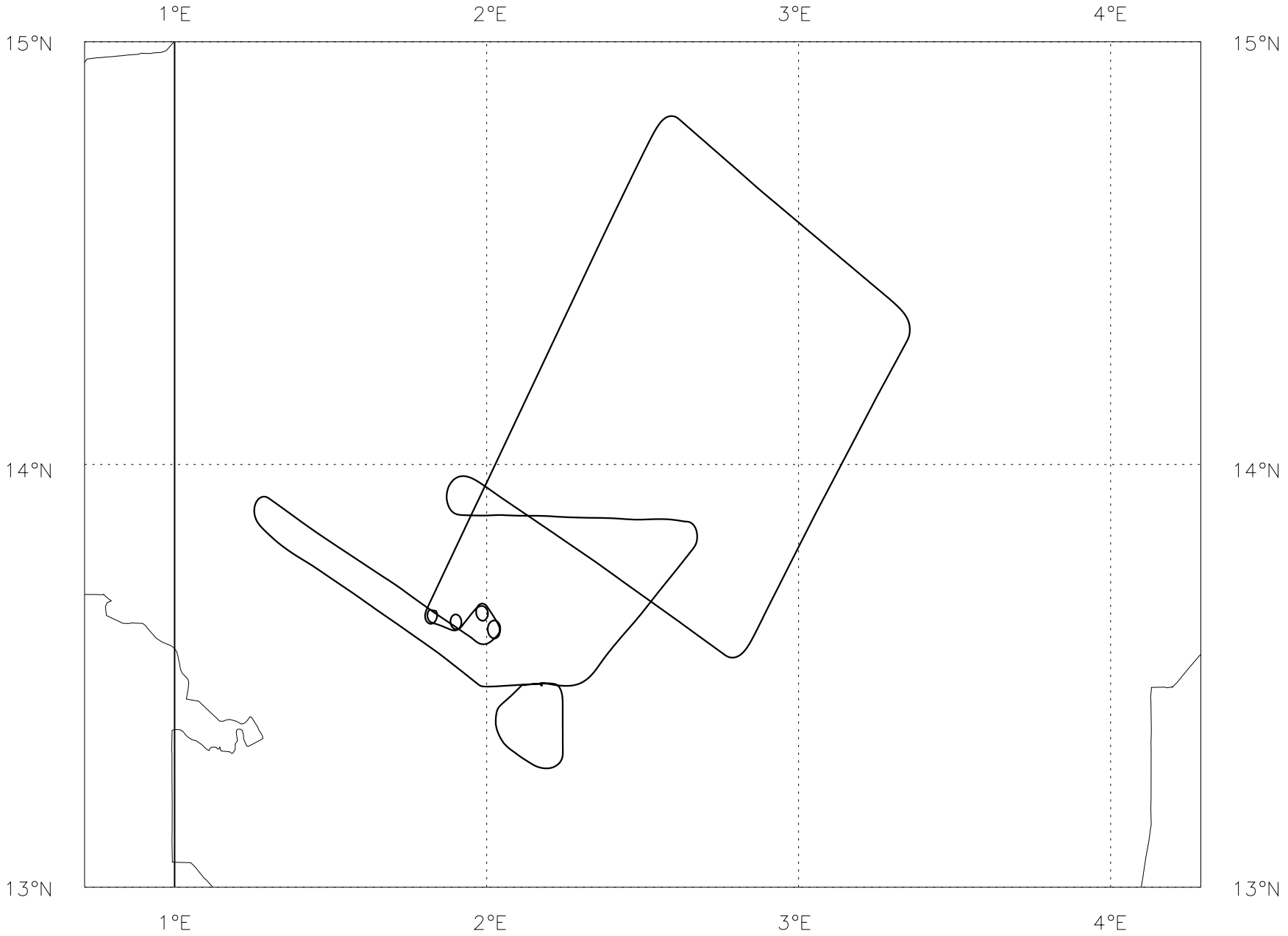


FLIGHT SUMMARY

Flight No b167
Date: 02 February 2006
Project: DABEX
Location: Niamey

Start Time	End Time	Event	Height (s)	Hdg	Comments
072416		INU	0.79 kft	315	to nav
072511		GPS	0.79 kft	315	13' 28.65N 2' 10.53E
072611		cgps	0.79 kft	315	b167cgps.log
073425		video	0.79 kft	315	#1 dfc #2 ffc
075245		T/O	0.77 kft	085	Niamey
075850	080522	Profile 1	5.0 - 0.85 kft	299	50' (P1 interrupted during manouvre)
080523	082602	Profile 2	0.85 - 20.0 kft	082	50'
081452		P2 interrupt	10.0 kft	044	
081638		P2 resume	10.0 kft	277	
082858	083856	Run 1.1	20.0 kft	118	into sun
082927		heimann cal 14	20.0 kft	120	
084019	085020	Run 1.2	20.0 kft	034	cross sun
084043		heimann cal 10	20.0 kft	031	
084056		nev	20.0 kft	031	zero
085148	090149	Run 1.3	20.0 kft	303	down sun
090309	091511	Run 1.4	20.0 kft	217	cross sun extended 2 mins for sws
091543		!	20.0 kft	214	further ext for sws
091751		!	20.0 kft	214	extended R1.4 ends
091948	092107	Orbit 1	20.0 kft	174	170M turn to port
092200	092317	Orbit 2	20.2 - 20.0 kft	077	070M turn to port
092408	092522	Orbit 3	20.2 - 19.9 kft	089	120M turn to stbd
092615	092731	Orbit 4	20.1 - 19.8 kft	198	190M turn to stbd
092859	095108	Profile 3	20.0 - 2.4 kft	296	
093804		P3 interrupt	12.0 kft	296	
094020		P3 resume	12.0 kft	127	
095604		Land	0.76 kft	087	Niamey
100333		INU	0.78 kft	316	13' 29.51N 2' 09.45E
100440		GPS	0.77 kft	316	13' 28.65N 2' 10.53E

B167 Track 02-FEB-06



FAAM Sortie Brief

DABEX: Calibration flight for SWS, SHIMS and BBRs

Flight No: B167 Date: 2nd February 2006

Trial objectives:
To perform high level patterns for SHIMS, SWS and BBR calibrations.

Location:
Over land areas in the region of Niamey.

Weather:
Cloudless skies essential.

Special requirements:
Low-level (50ft) flying over land (missed approach).

Flight pattern:

1. Take off from Niamey.
2. Carry out a missed approach style ascent [5 mins, T= 5 mins]
3. Broken profile ascent to FL200 at 1000ft/min, breaking once at FL100 [20 mins, T=25mins]
4. Box pattern at FL200 consisting of 10 min legs orientated into, across, down and across sun [45mins, T=70 mins]
5. A series of four orbits at FL200, at maximum bank angle, two LH and two RH turns [10mins, T=80 mins]
6. Profile descent from FL200 to ~2000ft at 1000ft/min [20mins, T=120 mins]
7. Land Niamey. [10 mins, T=130 mins]

Sortie Debrief

Flight Number: B167 Date: 2nd February 2006

Sortie Objectives: DABEX high level calibration flight for radiometers.

Operating area: Over land to north of Niamey.

Weather: Clear skies. No cirrus. Considerable haze. Light winds

Flight Patterns:
Take off from Niamey at ~0750Z. Carried out a missed approach manouvere over Niamey airfield. Profile ascent, broken once at FL100, to FL200. Dust observed in lowest 3000ft with considerable fine structure. A very clear blue slot at around 4500ft was clear to all directions. On top of this, a deep biomass layer (CO strongly and positively correlated with nephelometer scattering persisted to around FL115. Another clear slot and then a very thin biomass layer between FL130 and FL145. Above FL150 we entered free tropospheric air with CO2 and scattering reaching background values and O3 increasing.
A box pattern consisting of into, across, down and across sun runs was performed at FL200. SHIMS and 1 module of SWS were recorded. SWS was stepped through 70 degrees from maximum possible tilt. SZA ~ 60°. During cross sun runs the SWS was pointed at zenith. All these were completely free of Ci. The final leg of the box pattern was extended to allow swapping of SHIMS and SWS modules on to the rack. Initally no signal was observed on the 2nd (near IR) module of SWS, but after 2 tries it was observed to be present but very small. A series of 4 orbits at bank angle 60° were performed (two left hand turns followed by two right hand turns).
A broken profile from FL200 (broken once at FL120) was performed and landed at Niamey at ~1005Z

Summary:
A very successful flight in cloud free skies, ideal for radiometer, SWS and SHIMS r calibrations. Two good vertical profiles of scattering and chemistry in addition.

Problems:
Upper pyrogreometer had problems at high altitude.

Aircraft Scientist's Log

Flight No B.167 Date 2nd Feb 06 Page 1 of .....

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
075245				Niamey	Clear skies ahead. No cloud
					visible. Somewhat hazy,
					Reduced science crew.
					Clear slot visible between 2
					aerosol layers ~ 4kft.
075850	P1	5000ft↓			Clear blue slot at 4000ft
					brown haze layer to north
					visible
080430	P1	1200ft			Fine structure visible in
					profile. Very strong peak (dust) at
080522	P1	50ft			2.8 kft,
080522	P2	50ft↑	89		Hazy
080901		400ft↑			Very clear blue slot, dark haze
					above and below.
081134		FL063↑			Strong ish biomass peak, O_3 only 80 nm^{-1}
081452	P2int	FL100→			Dust
081638	P2restart	FL100↑			CO in biomass 250 ppb. Signal in O_3.
081915	P2	FL210			top of main layer. Thin layer
					visible above, ahead and to right.
082201		FL150			Thin clear slot, some turbulence.
					SHIMS, SWS Check.
082413		FL180			Possibly another thin layer above us?
0826	P2	FL200			~~above?~~ Free tropospheric air, CO, O_3,
082858	R1.1	FL200→	120	INTO SUN	Clear above & below. Haze layer
					below

Aircraft Scientist's Log

Flight No B.167..... Date ....2 Feb 06..... Page ..2.. of .....

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
083856	R1. lend	FL200	120		cirrus distant to RHS, turn left.
084019	R1.2	FL200	32	cross sun	SWS ~zenith
085028	R1.2 end	FL200			
085148	R1.3	FL200	301	down sun	clear sky.
085918	R1.3	FL200	301	down sun	Some layers, thin, ahead Ci or aerosol? and to left
090149	R1.3end				CO calib in turn
090309	R1.4	FL200	216	cross sun	SWS ↑
090754	R1.4		216		Ci distant to left. thin and patchy
	R1.4end				
091948	01	FL200	170		SWS vis module only. LH turn
092107	01end	FL200			near IR was working but very small.
092200	02	FL200	070		LH turn
092317	02end	FL200			End orbit 2
	03				RH turn
092408	03	FL200	120		End orbit
092522	03				end orbit
092618	04	FL200	190		RH turn
092730	04	FL200			end orbit
092859	P3	FL200↓	297		start
093600	P3	FL 140			clear thin layer dark above, clear
					slot visible, hazy below
093754	P3	FL120			Profile interrupt
094026	P3	FL120↓			restart P3 descending into dark haze
094?20	P3	2,300ft			End profile

CORE CHEMISTRY FLIGHT LOG FOR FLIGHT FOLDER

Flight Number : B167
Date : 02 Feb 2006
Operator and contact info : Doug Anderson (dougan@faam.ac.uk)

Problems with Instruments

CO	None
O_3	None
NO_x	None
SO_2	None
TDLAS	Not operated
WAS	Not operated

CO Calibrations

A full calibration lasts approx three minutes, it consists of a cal and a zero
Shorter (quick cals) are sometimes done at low level which is calibration only

Time (GMT)	Level	Comments
07:48:09	Ground	
07:57:30	FL050	
08:29:07	FL200	
09:05:34	FL200	

CLOUD PHYSICS LOG Flight B167

Date: 2/2/06	Operator: MAP	DRS Time: 07:00:00	DAU1 Time: +0	DAU2 Time: +0	DAU3 Time: +0	Aux1 Time: +0	Aux2 Time: +0	Page 1 of 2

G.M.T	PCASP		FFSSP	SID1	SID2	2D2-C		2D2-P		CIP25			CIP100			Habit	Remarks
	Conc/cc	Mean R	Block TX	Count	Count	Conc/L	Max size	Conc/m3	Max size	Conc m3	Max size	LWC	Conc m3	Max size	LWC		
07:58:50	200	0.11	Off														Start Profile 1 from FL050
07:59:43	25	0.10	Off														FL040
08:00:29	65	0.10	Off														FL030
08:03:21	60	0.16	Off	Error													FL020
08:05:23	200	0.12	Off	Error													End of Profile 1 & Start Profile 2 @ 50’
08:07:00	75	0.21	Off	Error													FL020
08:08:00	25	0.21	Off														FL030
08:09:26	115	0.13	Off														FL040
08:10:12	225	0.12	Off	10													FL050
08:11:04	630	0.10	0	10													FL060
08:11:54	525	0.10		5													FL070
08:12:47	450	0.10		5													FL080
08:13:42	290	0.11		5													FL090
08:14:46	360	0.10		10													FL100
08:17:42	280	0.10		5													FL110
08:18:39	270	0.10		5													FL120
08:19:42	80	0.10		2													FL130
08:20:41	155	0.10		2													FL140
08:21:40	25	0.12															FL150
08:22:26	15	0.13															FL160
08:23:18	10	0.10															FL170
08:24:06	10	0.12															FL180
08:24:58	6	0.11															FL190
08:26:00	7	0.09															End of Profile 2 @ FL200
08:28:58																	Start Run 1.1 @ FL200
08:29:00	10	0.12															
08:31:00	5	0.14															
08:33:00	10	0.13															
08:35:00	10	0.12															
08:37:00	15	0.14		5													
08:38:56																	End of Run 1.1
08:40:20																	Start Run 1.2 @ FL200
08:41:00	7	0.08															
08:43:00	6	0.13															
08:45:00	Noise																
08:47:00	5	0.09															
08:49:00	5	0.10															
08:50:22																	End of Run 1.2
08:51:50																	Start Run 1.3 @ FL200
08:52:00	8	0.13															
08:54:00	8	0.12															
08:56:00	8	0.11															
08:58:00	9	0.10															
09:00:00	5	0.10															
09:01:50																	End of Run 1.3
09:03:10																	Start Run 1.4 @ FL200

CLOUD PHYSICS LOG Flight B167

Date: 2/2/06	Operator: MAP	DRS Time: 07:00:00	DAU1 Time: +0	DAU2 Time: +0	DAU3 Time: +0	Aux1 Time: +0	Aux2 Time: +0	Page 2 of 2

G.M.T	PCASP		FFSSP	SID1	SID2	2D2-C		2D2-P		CIP25			CIP100			Habit	Remarks
	Conc/cc	Mean R	Block TX	Count	Count	Conc/L	Max size	Conc/m3	Max size	Conc m3	Max size	LWC	Conc m3	Max size	LWC		
09:04:00	8	0.08	0														
09:06:00	6	0.10															
09:08:00	8	0.12															
09:10:00	8	0.09															
09:12:00	5	0.10															
09:14:00	6	0.10															
09:15:11																	End of Run 1.4
09:19:50																	Start Orbits
09:27:32																	End Orbits
09:29:00	12	0.11															Start Profile 3 from FL200
09:30:13	7	0.12															FL190
09:31:29	12	0.12															FL180
09:32:30	20	0.11															FL170
09:33:40	15	0.12															FL160
09:34:49	20	0.10															FL150
09:35:50	45	0.10															FL140
09:36:55	120	0.10															FL130
09:37:59	55	0.11															FL120
09:41:33	450	0.10		10													FL110
09:42:18	430	0.10		10													FL100
09:43:25	440	0.10		10													FL090
09:44:27	640	0.11		10													FL080
09:45:36	880	0.10		15													FL070
09:46:49	300	0.10		15													FL060
09:48:02	190	0.11		5													FL050
09:49:09	25	0.11		5													FL040
09:50:16	85	0.16		100													FL030
09:51:13	75	0.16		80													FL024
	PCASP Flowrate = 1.6 CC/sec SID1 Sync problems – rebooted																

CLOUD PHYSICS PROCESSING LOG

Flight number: B167
Date:

B) FFSSP PROCESSING		
Processing Stage	Completed	Comments
1) Transfer *.txt files from DVD to PC	X	
Bnnn_FFSSP_hh.txt for each hour of data	X	
Bnnn_FFSSP_HVMS.txt	X	
2) FTP the files (ascii) from the PC to the directory	X	
PMSDATA: on FLOODS	X	
3) RUN MRFB:[PMS.FAST_FSSP]FSSP_EXTRACT_TAS	X	
a) Flight number: Bnnn	X	
b) Path name: MFDDATA:Bnnn_MFDX	X	
c) Output directory: PMSDATA:	X	
d) Start time: 0 if unknown	X	
e) End time: 240000 if unknown	X	
4) RUN MRFB:[PMS.FAST_FSSP]FFSSP_PROCESS_TXT	X	Note the calibration file used
a) Flight number: Bnnn	X	
b) Directory: PMSDATA:	X	
c) TAS in processing: Y	X	
d) Vel threshold (clicks) 0	X	
e) Calibration file: Use the most recent calibration file.	X	cal27022006.txt
Format FFSSP_CALddmmyyyy.txt	X	
Calibration files to be stored in MRFB:[PMS.FAST_FSSP]	X	
f) Adjust FFSSP time Y/N	X	Yes only if gross errors occur in FFSSP time eg; ~ 1hour
g) If Y, enter value to add to data time (seconds)	X	N
5) In PVWAVE	X	
a) enter:	X	
!path=!path+',mrfb:[pms.proc]'	X	
Note that the comma before "mrfb" is important!	X	
b) write_procffssp_to_m5,'pmsdata:Bnnn_procffssp.dat',	X	Note the correction applied to FFSSP time by /auto
'mfddata:Bnnn_mfdX','pmsdata:Bnnn_m5procffssp',/auto	X	
1st argument is output file from 5)	X	0 seconds
2nd argument is the MFD	X	
3rd argument is the new FFSSP data file in M5 format		
c) exit	X	
6) MODIFY	X	
a) Modifying datasets: pmsdata:Bnnn_m5procffssp	X	
b) Datset: mfddata:Bnnn_mfdX	X	
c) New dataset: Enter updated MFD name	X	MDFE (final mod)
d) Parameter description file: leave blank to use default	X	
7) CHECKS:		
i) FFSSP and JW/Nevzorov LWC – are they correctly synchronized in time?	n/a	No cloud
ii) If not, may be necessary to repeat 5b) using addt=x keyword. This adds x sec to FFSSP time.		
iii) Alternative at 5b) is to use ,auto=602 or auto=605 to align FFSSP with Nevzorov LWC or TWC.		

CLOUD PHYSICS PROCESSING LOG

Flight number: B167
Date:

C) 2D PROCESSING		
Processing Stage	Completed	Comments
1) Transfer Bnnn.dat file from CD/DVD to PC	X	
2) Zip up file on PC (Bnnn.zip)	X	
3) FTP the zipped file (binary) from the PC to the directory SEADAS_DATA:[SEADAS_DATA] on FLOODS	X X	
4) Log on to FLOODS	X	
5) unzip SEADAS_DATA:[SEADAS_DATA]Bnnn.zip	X	
6) In PVWAVE i) !PATH=!PATH+',MRFB:[PMS.PROC]' ii) CONVERT_SEADAS_FILE a) Input file: SEADAS_DATA:[SEADAS_DATA]Bnnn.dat b) Output file: SEADAS_DATA:[SEADAS_DATA] Bnnn_seadas.dat iii) exit	 X X X X X	Note the number of bad block reads and/or final numbers of blocks read & written Zero bad blocks 18490 blocks written
7) run MRFB:[PMS.SEADAS]READM200_FILE a) Default directory: PMSDATA: b) Flight number: Bnnn c) Disk file name: SEADAS_DATA:[SEADAS_DATA] Bnnn_seadas.dat d) Comment string: e) Start time: 0 if unknown f) End time: 240000 if unknown g) Read 2DC: Y h) Read 2DP: Y i) Secondary data Y j) FSP-SYNC: Y k) cmd.str: Y l) Auto time correction: N m) Full length secondary: N	X X X X X X X X X X X X X X	Don't worry about lots of FORTRAN run-time errors as long as the program continues. These are format errors when writing to ascii files.
8) 2D image display and printing Quick look at image blocks if required In PVWAVE i) !PATH=!PATH+',MRFB:[PMS.PROC]' i) WAVE> IMAGEDISPLAY a) 2D directory name: PMSDATA: b) Flight number: Bnnn c) IWC plot: N d) Select probe: (1) 2DC (2) 2DP e) Start time: 0 if unknown f) End time: 240000 if unknown g) Time interval (sec): 0 for every image block nominal 5 sec		This section is optional Features to look for: 1) Noise on 2D-P – does it affect non-edge diodes (with potential to create spurious particle counts)? 2) Can you identify a dominant particle habit for the whole flight (eg. drops or crystals) 3)

Preparation of imagery for Core data product iii) WAVE> auto_image a) 2D directory name: PMSDATA: b) Flight number: Bnnn c) Enter date: YYYYMMDD d) Enter start time 0 if unknown e) Enter end time 240000 if unknown f) Enter time interval (sec) between successive imaged blocks 10 iv) exit PVWAVE Creates files	PMSDATA:	FAAM_YYYYMMDD_R0_Bnnn_2Dx-IMAGES.PS
ftp *.PS files from PMSDATA: to PC		
Load each into Ghostview or other pdf-converter		
Output as pdf file (70 dpi resolution) and append name prefix of CORE-CLOUD-PHY_ to converted files		
9) run MRFB:[PMS.SPEC2D.AUTO]PROCESS2D_AUTO	X	If program crashes at a certain
a) Flight number: Bnnn	X	Time, for any reason, re-run
b) Directory: PMSDATA:	X	With that time as the new end.
c) File generation: Hit enter	X	
d) Time correction: Time offset of the 2D data	X	
e) TAS: Y	X	
f) MFD directory: MFDDATA:Bnnn_MFDX	X	
g) Probe number: (1) 2DC (2) 2DP (0) Both	X	
0 unless either probe known to be faulty	X	
h) Start time: Take-off or 0 if unknown	X	Look for realistic times in Flight Summary file or Cloud Phys operator log.
i) End time: Landing or 240000 if unknown	X	
j) Nominal averaging: 0.2 seconds for conversion to M5	X	
k) Particle type: 8 if known to be in ice cloud	X	Note the particle type: 8
11 if known to be in water cloud	X	075230 z as start time
8 if known to be in mixed-phase		
8 if unknown	X	
l) Coefficient choice: 2	X	
m) Output root filename: PMSDATA:Bnnn_PROC2D	X	
10) In PVWAVE	X	Note: This will run quicker if
i) enter:	X	you specify correct start / end
!PATH=!PATH+',MRFB:[PMS.PROC]'	X	times at 9h) and 9j).
Note that the comma before "mrfb" is important!	X	
ii) WRITE_PROC2D_TO_M5, 'PMSDATA:BNNN_PROC2D.DAT', 'PMSDATA:BNNN_M5PROC2D'	X	
iii) exit	X	
11) MODIFY	X	
a) Modifying datasets: pmsdata:Bnnn_m5proc2D	X	
b) Datset: mfddata:Bnnn_mfdX	X	
c) New dataset: Enter modified MFD name	X	
d) Parameter description file: leave blank to use default	X	
12) CHECKS:		
i) Is 2DC/2DP IWC of comparable magnitude and well-correlated with Nevzorov TWC?		

CLOUD PHYSICS PROCESSING LOG

Flight number: B167
Date:

D) PCASP PROCESSING		
Processing Stage	Completed	Comments
1) Complete stage 7) in 2D processing	X	
Ensures Bnnn_FSP.DAT containing raw PCASP data is	X	
written to directory PMSDATA:	X	
2) run MRFB:[PMS.PCASP]PROCPCASP_NEW	X	Note the min size channel
a) Flight number: Bnnn	X	Note the volume flow rate
b) File name: PMSDATA:Bnnn_FSP.DAT	X	
c) Root output name: PMSDATA:Bnnn_PROCPCASP	X	
Produces PMSDATA:Bnnn_PROCPCASP.DAT (binary)	X	
PMSDATA:Bnnn_PROCPCASP.OUT (ascii)	X	
d) Minimum size channel: Default = 1	X	Bin 1 chosen
If smallest size channel are known to be noisy the value	X	
of the highest noise free channel to be entered here	X	
e) Calibration volume flow rate:		
Use the most recent value.	X	1.6 ml/sec
Calibration files to be stored in **????**	X	
Entering zero gives default value = 1.0 cm3/sec	X	
f) Time correction: Same value as used in 2D processing stage 9 d)	X	Zero seconds
g) Start time: Take-off or 0 if unknown	X	Look for realistic times in Flight Summary file or Cloud Phys operator log.
h) End time: Landing or 240000 if unknown	X	
3) In PVWAVE	X	Note: This will run quicker if you specify correct start / end times at 2g) and 2h).
i) enter:	X	
!PATH=!PATH+',MRFB:[PMS.PROC]'	X	
Note that the comma before "mrfb" is important!	X	
ii) write_procpcasp_to_m5,'pmsdata:Bnnn_procpcasp.dat' ,'pmsdata:Bnnn_m5procpcasp'	X	
iii) exit	X	
4) MODIFY	X	
a) Modifying datasets: pmsdata:Bnnn_m5procpcasp	X	
b) Datset: mfddata:Bnnn_mfdX	X	
c) New dataset: Enter modified MFD name	X	
d) Parameter description file: leave blank to use default	X	

CLOUD PHYSICS PROCESSING LOG

Flight number: B167
Date:

E) NetCDF file preparation and ftp to BADC		
Processing Stage	Completed	Comments
1) Run TAREXEC:MFD_BADC		
For inputs below, just press ENTER to use defaults		Defaults in [square brackets]
a) MFD to convert: MFDDATA:Bnnn_MFDX b) version number for BADC: r[0] c) Names file: TARDIS_ROOT:[CALTEXT.NETCDF]CP_NAMES.TXT d) Directory: [DATA_ROOT:[NETCDF]] e) File prefix: [core-cloud-phy_faam] f) File suffix: [ ] g) File for output: [core-cloud-phy_faam_yyyymmdd_rm_Bnnn.nc]		As from 4c) above default NOT the default default default default Default name is generated
2) Ftp transfer to BADC - stage 1) creates two files: - core-cloud-phy_faam_yyyymmdd_rm_Bnnn.nc - core-cloud-phy_faam_yyyymmdd_rm_Bnnn.txt The *.txt file should be renamed to core-cloud-phy_faam_yyyymmdd_rm_Bnnn_descrip.txt but this cannot be done on VMS as the filename is too long You should do it if the file is first transferred to a PC, or after it has been uploaded to the appropriate “incoming” directory at BADC a) ftp ftp.badc.rl.ac.uk b) login with username and password c) cd /incoming/faam/campaign-processed-core d) copy *.txt file as ascii e) copy *.nc and *2D-IMAGES.pdf files as binary		

F) BACKUP PROCEDURES		
Processing Stage	Completed	Comments
1) Backup the intermediate files created in PMSDATA: a) zip “-V” PMSDATA:Bnnn*.* outdir:Bnnn_PMSDATA.zip Note that the uppercase “-V” option is important to preserve the VMS file characteristics when files are restored from this zip file.		Note destination directory “outdir”

CLOUD PHYSICS PROCESSING LOG

Flight number: B167
Date:

A) Raw data transfer to BADC		
Processing Stage	Completed	Comments
1) Transfer raw data files from DVD to PC Bnnn_FFSSP_hh.txt for each hour of data Bnnn_FFSSP_HVMS.txt Bnnn_FFSSP.raw Bnnn_FFSSP_House_1.hse etc. 2) Zip these file on the PC -output file: core-cloud-phy_faam_yyyymmdd_r0_bnnn_rawffssp.zip		
3) Transfer SEADAS Bnnn.dat file from CD/DVD to PC 4) Zip up file on PC (Bnnn.zip) - rename Bnnn.zip to core-cloud-phy_faam_yyyymmdd_r0_bnnn_rawseadas.zip		
5) ftp to BADC a) ftp ftp.badc.rl.ac.uk b) login with username and password c) cd incoming/faam/campaign_raw d) bin e) put core-cloud-phy_faam_yyyymmdd_r0_bnnn_rawffssp.zip f) put core-cloud-phy_faam_yyyymmdd_r0_bnnn_rawseadas.zip		Binary data transfer

SWS FLIGHT LOG SHEET

Flight # B167 | Date 2/2/06 | Operator(s) C. MCCONNELL | log page 1 of 2

PC

Time	Run Id	Alt/FL	Mirr Pos	Int Times Vis (MS)	Int Times NIR (MS)	Remarks
SHIMS 07:25			N/A	150	350	Start Recording
07:26:30				250	400	Dark
07:27				250	400	Rec
07:27:45						Stop Rec
07:36:34				250	400	Rec
07:44				200	400	Dark
07:45:01				200	400	Rec
07:52:45						T/O
07:55:49						Dark
~~07:58:48~~						~~Rec~~
07:56:21				150	400	Dark
07:58:36				150	400	Rec
07:58:50	P1					Start Profile
08:05:23	P2					Start Profile
08:09:00	P2			100	400	Dark
08:09:21	P2			100	250	Dark
08:09:34	P2			100	200	Rec
08:21:37	P2			75	200	Dark
08:21:58	P2			75	200	~~Rec~~ Dark
08:22:23	P2			75	200	Rec
				25	200	Dark
08:39:58				75	200	Rec
08:40:19	R1.2					Start Run
09:00:25	R1.3					Dark
09:00:39	R1.3			75	200	Rec
09:01:49	R1.3					End Run
09:03:09	R1.4					Start Run
09:13:58	R1.4					~~End Run~~ Stop Rec
09:16:10						Dark
SWS			6°	160	200	Dark NIR Signal VV weak
09:19	01		"	100	200	Rec
09:21			"	100	350	Dark "
09:21	02		"	100	350	Rec
09:23			"	100	500	Dark
09:23	03		"	100	500	Rec
09:27:31	04		"			End Orbit
09:28						Dark

SWS FLIGHT LOG SHEET

Flight # B167 | Date 2/2/06 | Operator(s) C MCCONNELL | log page 2 of 2

SHIMS

Time	Run Id	Alt/FL	Mirr Pos	Int Times Vis	Int Times NIR	Remarks
09:33	P3		N/A	150	350	Dark
09:36:00	P3					Rec
09:36:50	P3			100	350	Dark
09:35:00	P3			100	350	Rec
09:58:06						Landing
10:00:40						End Rec
10:00:53						Dark

SWS FLIGHT LOG SHEET

Flight # B167 | Date 2/2/06 | Operator(s) C. McCONNELL | log page 1 of 2

LAPTOP PC
SWS

Times copied from Rack PC clock

Time	Run Id	Alt/FL	Mirr Pos	Int Times Vis	Int Times NIR	Remarks
~~07:52:00~~				MS	N/A	
07:52:45						T/O
07:59	P1		6°	150		Dark
~~08:00:00~~						
08:00:40			6°	150		Rec
08:13	P2		"	100		Dark
08:13:19	P2		"	100		Rec
08:26:37	P2			150		Dark
08:26:52	P2		"	150		Rec
08:27				200		Dark
08:27				200		Rec
08:28						
				250		Dark
08:29	R1.1					Rec
						Dark
08:29:49	R1.1		59°	250		Rec Aft
						Dark
08:30:46			50°	250		Rec - shutters closed Aft
08:31:37	R1.1		50°	250		~~Dark~~ Rec Aft
						~~Rec~~ Dark
08:32:41	R1.1		38°	250		~~Dark~~ Rec Aft
						~~Rec~~ Dark
08:33:33	R1.1		30°	"		Rec Aft
						Dark
08:34:29	R1.1		20°	"		Rec Aft
						Dark
08:35:27	R1.1		10°			Rec Aft
						Dark
08:36:22	R1.1		0°			Rec
						Dark
08:37:25	R1.1		6°			Rec Fore
08:38:56	R1.1					End Run
08:40:19	R1.2		6°	250		Start Run
08:50:20	R1.2					End Run
	R1.3					Dark
08:52:14	R1.3		53°	250		Rec Fore
						Dark
08:53:50	R1.3		39°	"		Rec Fore
						Dark
08:54:49	R1.3		31°	"		Rec - Shutter closed
08:55:42	R1.3		31°	"		~~Dark~~ Rec Fore
						~~Rec~~ Dark

SWS FLIGHT LOG SHEET

Flight # B167 | Date 2/2/06 | Operator(s) C. McCONNELL | log page 2 of 2

LAPTOP
SWS

Time	Run Id	Alt/FL	Mirr Pos	Int Times Vis	Int Times NIR	Remarks
				MS		
08:58:39	R1.3	~~250~~	20°	250	N/A	Rec Fore
						Dark
08:57:34	R1.3		10°	250		Rec Fore
						Dark
08:58:36	R1.3		1°	250		Rec Fore
						Dark
08:59:39	R1.3		60°	250		Rec Fore.
09:01:49	R1.3		6°			End Run
09:03:09	R1.4		6°			Start Run
09:13:30						~~End Run~~ Stop Rec
09:13:42						Dark
09:35	P3		6°	150		Dark
09:35	P3		"	"		Rec
09:36:18	P3		"	250		Dark
09:36:37	P3		"	250		Rec
09:56:04						Landing
09:57:~~28~~						End Rec
09:57:28						Dark

Flight Manager's Instrument Status Log

Flight No. **B** 167 Date: 2nd February 2006

Instrument	Operated	Instrument	Operated
Navigation		**Cloud Physics**	
INU	**Y**	**Probes**	
XR5M GPS	**Y**	FFSSP	**Y**
Cruciform GPS	**Y**	PCASP	**Y**
Satcom C	**Y**	2D-P	**Y**
Satcom H	**Y**	2D-C	Y
Thermometers		Cloudscope	**N**
De-Iced Temp	**Y**	SID 1	**Y**
Non De-Iced	**Y**	SID 2	**Y**
Heimann	**Y**	HVPS	**N**
Hygrometers		CIP25	**N**
G. Eastern	**Y**	CIP100	**Y**
J. Williams	**N**		
Nevzorov	**Y**		
TWC	**Y**		
FWVS	**N**	**Racks:**	
Radiometers		INC	**N**
Upper Clear	**Y**	CCN / CPC	**N**
" Red	**Y**	CVI	**N**
" Silicon	**Y**		
" SHIMS	**Y**	**Aerosol**	
Lower Clear	Y	PSAP	**n**
" Red	**Y**	Nephelometer	**Y**
" Silicon	**Y**	Filters	**n**
		AMS	**n**
Large Radiometers			
TAFTS	**N**		
MARSS	**N**		
DEIMOS	**N**	**Others:**	
ARIES	**N**	NIR TDLAS	N
SWS	Y	2BT O3	N
Chemistry		VACC	n
Ozone	Y	PEROXIDE	N
SO2	Y	Formaldehyde	N
NOX	Y	ADA	N
CO	Y	CPI	N
ORAC	N	NOxy	N
PAN	N	PTRMS	N
PERCA	N	Bag Sampling	n
WAS	N	Tube Sampling	n

Faults / Incidents Log

Flight No. B167
Date: 2nd February 2006

Instruments

1. JW – not operated
2. Upper Pyrgeometer – signal and zero noisy, possible failure of unit or signal chain starts at 08:56 , recovered at 09:40
3. FFC window very mucky!

Cloud Physics – PCASP ok
FFSSP- switched off at low level,
2DC – ok
SID 2 noisy on occasions, otherwise ok
AMS & PAN – not operated
Wet Neph – Zero out of calibration
IR Camera – not operated
CCN, CVI, SWS, VACC – ok
SHIMS

Not fitted: ARIES, MARSS, DEIMOS

Aircraft

Nil

Satcom H Calls - Nil